

## PATENT COOPERATION TREATY

## PCT

## INTERNATIONAL PRELIMINARY REPORT ON PATENTABILITY


(Chapter II of the Patent Cooperation Treaty)

(PCT Article 36 and Rule 70)

REC'D 09 JUN 2006

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Applicant's or agent's file reference 2003P09615WO/P72/CF	<b>FOR FURTHER ACTION</b>		See Form PCT/IPEA/416
International application No. PCT/GB2005/000856	International filing date (day/month/year) 04.03.2005	Priority date (day/month/year) 06.03.2004	
International Patent Classification (IPC) or national classification and IPC INV. F16L59/14 F16L9/18			
Applicant SIEMENS MAGNET TECHNOLOGY LTD. et al.			
<p>1. This report is the international preliminary examination report, established by this International Preliminary Examining Authority under Article 35 and transmitted to the applicant according to Article 36.</p> <p>2. This REPORT consists of a total of 6 sheets, including this cover sheet.</p> <p>3. This report is also accompanied by ANNEXES, comprising:</p> <p>a. <input checked="" type="checkbox"/> sent to the applicant and to the International Bureau a total of 1 sheets, as follows:</p> <p><input checked="" type="checkbox"/> sheets of the description, claims and/or drawings which have been amended and are the basis of this report and/or sheets containing rectifications authorized by this Authority (see Rule 70.16 and Section 607 of the Administrative Instructions).</p> <p><input type="checkbox"/> sheets which supersede earlier sheets, but which this Authority considers contain an amendment that goes beyond the disclosure in the international application as filed, as indicated in item 4 of Box No. I and the Supplemental Box.</p> <p>b. <input type="checkbox"/> (sent to the International Bureau only) a total of (indicate type and number of electronic carrier(s)) , containing a sequence listing and/or tables related thereto, in electronic form only, as indicated in the Supplemental Box Relating to Sequence Listing (see Section 802 of the Administrative Instructions).</p>			
<p>4. This report contains indications relating to the following items:</p> <p><input checked="" type="checkbox"/> Box No. I Basis of the report</p> <p><input type="checkbox"/> Box No. II Priority</p> <p><input type="checkbox"/> Box No. III Non-establishment of opinion with regard to novelty, inventive step and industrial applicability</p> <p><input type="checkbox"/> Box No. IV Lack of unity of invention</p> <p><input checked="" type="checkbox"/> Box No. V Reasoned statement under Article 35(2) with regard to novelty, inventive step or industrial applicability; citations and explanations supporting such statement</p> <p><input type="checkbox"/> Box No. VI Certain documents cited</p> <p><input checked="" type="checkbox"/> Box No. VII Certain defects in the international application</p> <p><input type="checkbox"/> Box No. VIII Certain observations on the international application</p>			
Date of submission of the demand  05.01.2006		Date of completion of this report  08.06.2006	
Name and mailing address of the international preliminary examining authority:  European Patent Office D-80298 Munich Tel. +49 89 2399 - 0 Tx: 523656 epmu d Fax: +49 89 2399 - 4465		Authorized officer  Dauvergne, B  Telephone No. +49 89 2399-7527	



**INTERNATIONAL PRELIMINARY REPORT  
ON PATENTABILITY**

International application No.  
PCT/GB2005/000856

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**Box No. I Basis of the report**

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1. With regard to the **language**, this report is based on

- ☒ the international application in the language in which it was filed
- ☐ a translation of the international application into , which is the language of a translation furnished for the purposes of:
  - ☐ international search (under Rules 12.3(a) and 23.1(b))
  - ☐ publication of the international application (under Rule 12.4(a))
  - ☐ international preliminary examination (under Rules 55.2(a) and/or 55.3(a))

2. With regard to the **elements\*** of the international application, this report is based on *(replacement sheets which have been furnished to the receiving Office in response to an invitation under Article 14 are referred to in this report as "originally filed" and are not annexed to this report):*

**Description, Pages**

1-8 as originally filed

**Claims, Numbers**

2-11 as originally filed

1 received on 05.01.2006 with letter of 04.01.2006

**Drawings, Sheets**

1/3-3/3 as originally filed

- ☐ a sequence listing and/or any related table(s) - see Supplemental Box Relating to Sequence Listing

3. ☐ The amendments have resulted in the cancellation of:

- ☐ the description, pages
- ☐ the claims, Nos.
- ☐ the drawings, sheets/figs
- ☐ the sequence listing (*specify*):
- ☐ any table(s) related to sequence listing (*specify*):

4. ☐ This report has been established as if (some of) the amendments annexed to this report and listed below had not been made, since they have been considered to go beyond the disclosure as filed, as indicated in the Supplemental Box (Rule 70.2(c)).

- ☐ the description, pages
- ☐ the claims, Nos.
- ☐ the drawings, sheets/figs
- ☐ the sequence listing (*specify*):
- ☐ any table(s) related to sequence listing (*specify*):

\* If item 4 applies, some or all of these sheets may be marked "superseded."

**INTERNATIONAL PRELIMINARY REPORT  
ON PATENTABILITY**

International application No.  
PCT/GB2005/000856

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**Box No. V Reasoned statement under Article 35(2) with regard to novelty, inventive step or industrial applicability; citations and explanations supporting such statement**

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1. Statement

Novelty (N)	Yes: Claims	5, 10
	No: Claims	1-4, 6-9, 11
Inventive step (IS)	Yes: Claims	5
	No: Claims	1-4, 6-11
Industrial applicability (IA)	Yes: Claims	1-11
	No: Claims	

2. Citations and explanations (Rule 70.7):

**see separate sheet**

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**Box No. VII Certain defects in the international application**

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The following defects in the form or contents of the international application have been noted:

**see separate sheet**

**INTERNATIONAL PRELIMINARY  
REPORT ON PATENTABILITY  
(SEPARATE SHEET)**

International application No.

PCT/GB2005/000856

**Re Item V**

**Reasoned statement with regard to novelty, inventive step or industrial applicability;  
citations and explanations supporting such statement**

Reference is made to the following documents:

D1: US-A-5 285 744 (GRANTHAM ET AL) 15 February 1994 (1994-02-15)

D2: US-A-4 233 816 (HENSLEY ET AL) 18 November 1980 (1980-11-18)

D3: US-B1-6 571 832 (ELLIOTT JERRY E) 3 June 2003 (2003-06-03)

D4: US-A-5 687 993 (BRIM ET AL) 18 November 1997 (1997-11-18)

**1- Novelty**

The subject matter of the following claims lacks novelty (Art. 33.2 PCT) because their features are known from D1.

**1-1 Claim 1:**

From D1, a hose suitable for supplying a compressed gas to an equipment, and conducting a return flow of gas from the equipment is known, suitable for a pulsed oscillating gas flow for supplying a compressed gas to and returning said gas from an equipment.

The hose comprises a inner (12) and outer (16) coaxial hoses defining a first inner conduit (14) and a second circumferential conduit (18) which surrounds the first conduit.

The inner conduit operable to transfer compressed gas from a compressor to the equipment and the inner conduit is operable to transfer the return flow of gas from the equipment to the compressor.

From D2, a hose suitable for supplying a compressed gas to an equipment, and conducting a return flow of gas from the equipment is known, wherein the hose comprises a inner (16) and outer (10) coaxial hoses defining a first inner conduit and a second circumferential conduit which surrounds the first conduit.

The inner conduit operable to transfer compressed gas from a compressor to the equipment and the inner conduit is operable to transfer the return flow of gas from the equipment to the compressor.

**1-2 Claim 2:**

**INTERNATIONAL PRELIMINARY  
REPORT ON PATENTABILITY  
(SEPARATE SHEET)**

International application No.

PCT/GB2005/000856

The inner hose (see Fig.1) is supported within the inner hose, in this case by the connectors.

1-3 Claim 3:

The outer hose (16) of D1 is convoluted.

1-4 Claim 4:

See Fig.8.

1-5 Claim 6:

See D2, col.6, lines 35-40.

1-6 Claims 7, 8, 9:

Claims 7, 8 define in broad terms, i.e. without any limiting features a possible application for a transfer hose such as the one disclosed in D1.

As far as claim 7 is concerned, it is not even clear what type of medium the hose is supposed to transfer, or if it transfers anything.

1-7 Claim 11:

See 1-1.

**2- Inventive step**

The subject matter of the following claims would appear to lack an inventive step (Art. 33.3 PCT) for the reasons detailed below.

2-1 Claim 10:

From D4, it is known to circulate coaxially medical related fluids from an equipment to another one. The application to the assembly referred to in claim 10, for which any suitable coaxial pipe appears to be suitable since the pipe has no characterising features, lacks an

**INTERNATIONAL PRELIMINARY  
REPORT ON PATENTABILITY  
(SEPARATE SHEET)**

International application No.

PCT/GB2005/000856

inventive step.

**Re Item VII**

**Certain defects in the international application**

Contrary to the requirements of Rule 5.1(a)(ii) PCT, the relevant background art disclosed in documents D1-D4 is not mentioned in the description, nor are these document identified therein.

2003P09615WO

-9-

Claims

1. A gas transfer hose (22) providing supply and return paths for a pulsed oscillating gas flow for supplying a compressed gas to an equipment (12), and conducting a return flow of gas from the equipment, wherein the hose comprises a inner (30) and outer (32) coaxial hoses defining a first inner conduit (24) and a second circumferential conduit (26) which surrounds the first conduit, one conduit being operable to transfer the compressed gas from a compressor to the equipment and the other conduit being operable to transfer the return flow of gas from the equipment to the compressor.
2. A gas transfer hose according to claim 1 wherein the inner hose (30) is supported within the outer hose (32) by supports (28).
3. A gas transfer hose according to claim 1 or claim 2 wherein at least one of the inner (30) and outer (32) hoses is convoluted.
4. A gas transfer hose according to any preceding claim wherein an outer surface of at least one of the inner (30) and outer (32) hoses is covered in braiding (34).
5. A gas transfer hose according to any preceding claim wherein an inner surface of at least one of the inner (30) and outer (32) hoses is covered in braiding (34).
6. A gas transfer hose according to any preceding claim wherein the inner (30) and outer (32) hoses are formed from stainless steel.
7. A cryogenic assembly comprising a compressor (14) and a refrigerator (12) each having respective gas inlet (44, 46) and outlet (42, 48) ports joined by a gas transfer hose according to any preceding claim.
8. A cryogenic assembly according to claim 7, wherein the first, inner conduit (24) is arranged to conduct the return flow of gas from the refrigerator (12).